



Open Market Operations Versus Reserve-Requirement Variation: Comment

Richard C. Porter

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terminology of this note, b may exceed a , but not necessarily by the margin indicated above. b would exceed a if the ratio of government securities to earning assets were a decreasing function of the cash-reserve ratio or, alternatively, an increasing function of the rate of bank earnings. There is no evidence, however, that such relations hold in the United States. In fact, over the decade 1950–59, exactly the opposite relations prevailed. The tendency of banks to shift from securities to loans is a familiar difficulty in the application of restrictive credit policy; it does not seem to be a peculiar weakness of reserve-requirement variation.

The choice between reserve-requirement variation and open-market operations may affect the net carrying cost of the public debt, even if it has no direct influence on security yields. When the central bank engages in open-market purchases or sales it increases or decreases its earning assets. If, over a business cycle, the authorities choose to tighten credit whenever appropriate by selling securities and to relax credit by lowering reserve requirements, the earnings of the central bank will be smaller and the earnings of the commercial banks larger than if the same changes in credit conditions were brought about by raising reserve requirements and buying securities. In the United States and other countries where earnings of the central bank in excess of a certain rate or amount are paid to the government, policies that have closely similar monetary results may have different budgetary implications. This point was recently stressed by the Congressional Joint Economic Committee in recommending that the Federal Reserve authorities provide the additional bank reserves needed to allow secular expansion of the money supply through open-market purchases rather than by further lowering reserve requirements.¹

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OPEN MARKET OPERATIONS *VERSUS* RESERVE- REQUIREMENT VARIATION: COMMENT

In a recent article in this JOURNAL,² Professor Aschheim finds an "asymmetry" between increases in reserve requirements and open-market sales which "militates against the increase of reserve requirements as a counter-inflationary measure" (p. 703). While he adds several interesting observations to the present debate over these two central bank instruments, Aschheim's analysis is unfortunately neither free of error nor conclusive.

His technique of comparison is a generally acceptable one. In his

¹ Joint Economic Committee, *Staff Report on Employment, Growth, and Price Levels* (Washington, December 24, 1959), p. 406, and *Report of the Committee* (Washington, January 26, 1960), p. 43.

² J. Aschheim, "Open-market Operations *versus* Reserve-requirement Variation," *Economic Journal*, December 1959, pp. 697–704.

"second type of situation" the commercial banks are assumed without excess reserves and in equilibrium with respect to the structure of their assets.¹ The central bank is assumed to reduce the "volume of bank reserves by a given amount" (p. 679; I trust Aschheim means the volume of bank *deposits*, since the volume of reserves is not affected by a change in reserve ratios), and the efficacy of the two techniques is measured by the extent to which each reduces the quantity of loans made by the banking system. On the basis of an "income" motive and a "liquidity" motive, Aschheim concludes that open-market sales win decisively.²

The adverse (from the view-point of restrictive policy) "income" effect of reserve requirement increases is certainly important; in stressing it, however, Aschheim has forgotten his own point that "higher reserve requirements reduce not only the total volume of commercial-bank assets but also the proportion of commercial-bank earning assets to their total assets. On the other hand, open-market operations reduce the total volume of commercial-bank assets without reducing the proportion of earning assets to total assets" (pp. 699-700). The greater loss of earning assets, and hence income, caused by raising reserve requirements (as compared to open-market sales) will most probably induce the banks to increase the proportion of their earning assets in the higher-yield asset (*i.e.*, loans), but it must be remembered that the *total amount* of earning assets is less. There is no *a priori* reason for believing that a larger fraction of a smaller total will be greater.³ The question is an empirical one.

The other of the two reasons Aschheim advances for this shift in the banks' preferences is, however, fallacious. He claims that the "liquidity needs of commercial banks are to a greater extent met by the required reserves themselves with a higher reserve requirement than with an unchanged reserve requirement" (p. 700). An arithmetic example suffices. Suppose a particular bank has 100 of deposits, a 10% reserve requirement ratio and no excess reserves; further, suppose that it desires sufficient secondary reserves (*i.e.*, Government securities) to be able to meet a withdrawal of one-fifth its deposits. Then its balance sheet is:

Assets.	Liabilities.
Reserves: 10	Deposits: 100
Securities: 18	
Loans: 72	

¹ Aschheim associates this situation with a "neutral" monetary policy, although he makes it clear throughout that he means "restrictive." He also considers the ("first type" of) situation where banks are in the process of switching from securities to loans at the time the central bank acts. I prefer not to start comparative statics analysis from a position of disequilibrium.

² Some minor exceptions are noted by Aschheim in his Section V.

³ Theoretically, one *can* say, however, that there is *some* rise in the reserve requirements ratio for which the total-earning-asset effect against loans exceeds the "income" effect toward loans. But that is possibly a rise to 100% reserve requirements.

Now if its reserve requirements are raised to 20%, and it still wishes to be able to cover net withdrawals up to one-fifth its deposits, its balance sheet will be:

Assets.	Liabilities.
Reserves: 20	Deposits: 100
Securities: 16	
Loans: 64	

In each case, securities will be one-fourth as large as loans. A change in the relative earning rates of securities and loans or consideration of the "income" effect may induce the bank to alter the extent to which it maintains its liquidity; but, *from liquidity considerations alone*, the ratio in which the bank holds securities to loans is completely unaffected by a reserve-requirement change.

If we accept Aschheim's conclusion that a greater amount of loans will be made by the banking system after a rise in reserve requirements than after comparable open-market sales, it follows, as he states, that interest rates on Government securities will be raised "to a greater extent in response to higher reserve requirements" (p. 701).¹ But it is probable that the concern of the monetary authorities is not only with the interest *rate* but also with the total interest cost of the privately held (non-Government and non-central-bank) Government debt. While either policy will increase this total interest cost, we cannot tell, without further assumptions, which will increase it the more.

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OPEN-MARKET OPERATIONS *VERSUS* RESERVE- REQUIREMENT VARIATION: REPLY

I

1. IN their interesting note, Messrs. Goode and Gurley allege that my "argument *requires* that government security sales by commercial banks in response to an increase in reserve requirements exceed the total of sales by the central bank and commercial banks that would occur if equivalent open-market operations were conducted."² Their allegation is erroneous. My argument was that under conditions of an excess demand for private credit there is an asymmetry between the two central-bank measures in that greater shifting by commercial banks from government securities into private loans

¹ If we assume, plausibly, that there is no difference in the effect of the two policies on the non-bank public's demand curve for Government securities.

² *Italics mine.*

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[Footnotes]

² **Open-Market Operations Versus Reserve-Requirement Variation**

Joseph Aschheim

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